

(12) UK Patent Application (19) GB (11) 2 149 086 A

(43) Application published 5 Jun 1985

(21) Application No 8327305

(22) Date of filing 12 Oct 1983

(71) Applicant
David Arthur Allen,
7 Old Hall Road, Whitefield, Lancashire

(72) Inventor
David Arthur Allen

(74) Agent and/or Address for Service
Marks & Clerk,
Scottish Life House, Bridge Street, Manchester
M3 3DP

(51) INT CL⁴
F24C 3/04

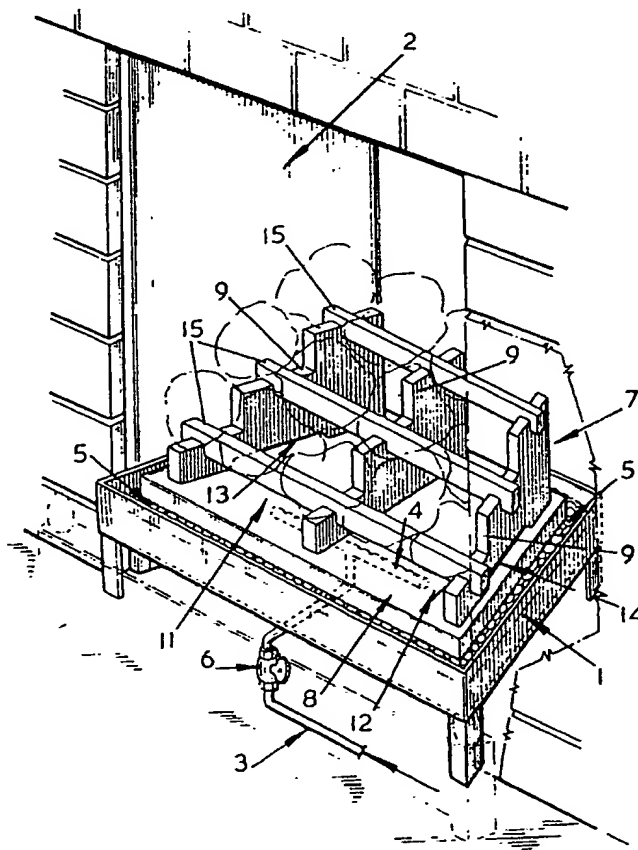
(52) Domestic classification
F4W 46A 46B
F4T 279 C

(56) Documents cited
GB A 2134641 GB A 2068106 GB A 2026154
GB A 2132339

(58) Field of search
F4W
F4T

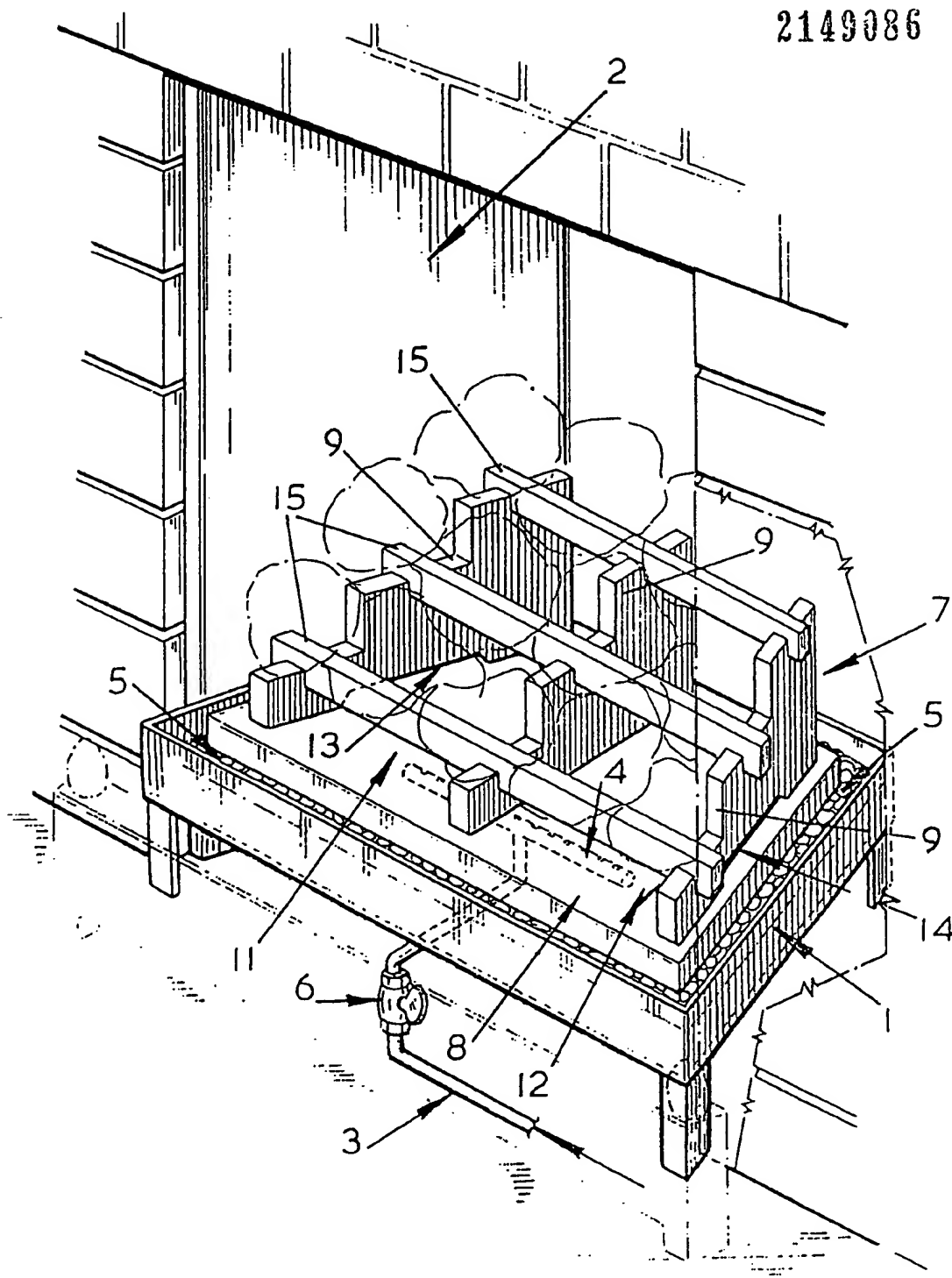
(54) Solid fuel effect gas fire

(57) A solid fuel effect gas fire has a tray (1) containing a bed (5) of particulate material. Gas is supplied to the bottom of the tray for upward percolation through the bed (5). A prefabricated sub-assembly (7) stands on the bed and includes a base plate (8) which is a loose fit in the tray (1), a number of supports (9) mounted on the plate with combustion spaces 11,12 therebetween, and ceramic coal or log supporting bars arranged on the supports (9).



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SPECIFICATION

Solid fuel effect gas fires

- 5 This invention relates to solid fuel effect gas fires.

Such fires are well known for use in open fire-places to simulate a coal or log fire. A simple design comprises a metal tray which fits into the fire-place and is filled with granular material topped by ceramic coals or logs. Gas is supplied to the tray from underneath and percolates through the granular material to be ignited at the surface thereof so as to heat the coals or logs.

This design has disadvantages because the solid fuel effect is not very realistic. The flames are relatively cold because of inadequate air in the combustion mixture. As a result the coals or logs are not heated effectively. In order to overcome these problems it has previously been proposed to improve the ventilation and raise the coals or logs above the granular bed as in my known design which has a bed of insulating particles in the floor of the tray covered by a metal deflector plate which is a loose fit in the tray. The plate is covered by a layer of steel slag (which glows to simulate coal dust) on which stand three stepped supports for supporting three parallel fire-bars at progressively higher levels in the direction to the rear of the tray. Ceramic coals or logs are arranged on the fire-bars. This design is very effective in improving the solid fuel effect of the fire. The deflector plate diverts the upward flow of gas to the edge of the tray where it can mix with an adequate volume of air before being drawn into the two combustion spaces which the supports define under the fire-bars.

However, my known design does have certain disadvantages. The stepped supports and the fire-bars have to be fabricated, erected and painted on site by a fitter thus increasing the time and cost of fitting the fire. Furthermore, the resultant structure, even when properly constructed, may collapse as a result of vibration or settlement and resetting is frequently required.

It is an object of the present invention to obviate or mitigate the aforesaid disadvantages.

According to the present invention, there is provided a solid fuel effect gas fire comprising a tray containing a bed of particulate material, gas supply means for supplying gas to the bottom of the tray so that it can percolate upwardly through said bed, and a prefabricated sub-assembly standing on said bed and comprising a base plate which is a loose fit in the tray, a plurality of supports mounted on said plate with combustion spaces therebetween, and a plurality of ceramic coal or log supporting bars arranged on said supports.

Preferably, the sub-assembly is made of

ceramic fibre compressed board.

It will be appreciated that the prefabricated sub-assembly of the gas fire according to the present invention not only overcomes the disadvantages of my known design referred to above but also enables the metal deflector plate to be dispensed with.

The invention will now be further described by way of example only, with reference to the accompanying drawings, in which the single Figure is a perspective, partly broken-away view of a fire-place fitted with a gas fire according to one embodiment of the invention.

Referring now to the drawing, the gas fire has a metal tray 1 which tapers rearwardly to fit into a fire-place 2. A gas supply pipe 3 penetrates the floor of the tray 1 centrally and is connected to a bar-shaped burner 4. The tray is partly filled with a layer 5 of insulation material, e.g. vermiculite particles, which covers the burner 4 and serves to reduce heat transfer to the gas supply pipe 3 and a tap 6 therein.

Standing on the insulating layer 5 is a prefabricated sub-assembly 7 comprising a base plate 8 which is a loose fit in the tray 1, three stepped supports 9 defining combustion spaces 11, 12 therebetween with access from front, rear and one side through apertures 13, 14 in the outer supports, and three coal-supporting bars 15 arranged on said supports 9 at progressively higher levels in the direction to the rear of the tray. The base plate 8, supports 9 and bars 15 are made of pieces of ceramic fibre compressed board interconnected in the factory using ceramic glue or any other appropriate means. The prefabricated sub-assembly is a stable structure which can easily be boxed and transported without risk of damage. It can be fitted quickly and easily and is more durable in use than the structure used in my known design.

The mode of operation will be evident having regard to the earlier description of my known design. The base plate replaces the metal deflector plate of my known design and has the additional function of replacing the steel slag layer because it will glow after a short period of time.

As shown in the drawings, the bars 15 have notched lower surfaces for positive engagement with the steps of the supports 9. In an alternative design, these notches are omitted and the flat lower surfaces of the bars 15 simply rest on and are fixed to the flat steps. The number of bars 15 may be varied, e.g. there may be only two bars in the case of a shallow fireplace and four or five bars in the case of a deep fireplace. The extra depth of the sub-assembly is achieved by lengthening the rear steps and positioning the extra bars thereon.

130 CLAIMS

1. A solid fuel effect gas fire comprising a tray containing a bed of particulate material, gas supply means for supplying gas to the bottom of the tray so that it can percolate upwardly through said bed, and a prefabricated sub-assembly standing on said bed and comprising a base plate which is a loose fit in the tray, a plurality of supports mounted on said plate with combustion spaces therebetween, and a plurality of ceramic coal or log supporting bars arranged on said supports.
2. A fire as claimed in claim 1, wherein the sub-assembly is made of ceramic fibre compressed board.
3. A solid fuel effect gas fire, substantially as herein described with reference to the accompanying drawing.

Printed in the United Kingdom for
Her Majesty's Stationery Office, Dd 8818935, 1985, 4235.
Published at The Patent Office, 25 Southampton Buildings,
London, WC2A 1AY, from which copies may be obtained.

DERWENT-ACC-NO: 1985-137012
DERWENT-WEEK: 198523
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TITLE: Solid fuel effect gas fire - has base plate for ceramic coal log mounted on support bars

INVENTOR: ALLEN, D A

PATENT-ASSIGNEE: ALLEN D A[ALLEI]

PRIORITY-DATA: 1983GB-0027305 (October 12, 1983)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
GB 2149086 A	June 5, 1985	N/A	004	N/A
GB 2149086 B	April 15, 1987	N/A	000	N/A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
GB 2149086A	N/A	1983GB-0027305	October 12, 1983

INT-CL (IPC): F24C003/04

ABSTRACTED-PUB-NO: GB 2149086A

BASIC-ABSTRACT: The solid fuel effect gas fire has a tray (1) containing a bed (5) of particulate material. Gas is supplied to the bottom of the tray for upward percolation through the bed. A prefabrication sub-assembly (7) stands on the bed. This includes a base plate (8) which is a loose fit in the tray (1), supports (9) mounted on the plate with combustion spaces (11,12) between, and ceramic coal or log supporting bars arranged on the supports.

The base plate supports and bars are made of pieces of ceramic fibre compressed board interconnected in the factory using ceramic glue.

ADVANTAGE - The assembly is resistant to collapse.

ABSTRACTED-PUB-NO: GB 2149086B

EQUIVALENT-ABSTRACTS: The solid fuel effect gas fire has a tray (1) containing a bed (5) of particulate material. Gas is supplied to the bottom of the tray for upward percolation through the bed. A prefabrication sub-assembly (7) stands on the bed. This includes a base plate (8) which is a loose fit in the tray (1), supports (9) mounted on the plate with combustion spaces (11,12) between, and ceramic coal or log supporting bars arranged on the supports.

The base plate supports and bars are made of pieces of ceramic fibre compressed board interconnected in the factory using ceramic glue.

ADVANTAGE - The assembly is resistant to collapse.